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North Carolina Division of Water Quality (NC DWQ): *Developing assessment tools that help identify and protect unique water resources*

Introduction

With approximately five million acres of wetland area, North Carolina contains an abundance of wetland resources. However, historical data indicates that about 34 percent of the state's wetland areas have been lost over the past century by rapid urban and agricultural development, with the most extensive losses occurring in the last 30 years. Today, the rapidly growing state has adopted numerous regulatory controls to protect wetlands. The state relies primarily on the §401 water quality certification program under the Clean Water Act for wetlands regulation, which is administered by the North Carolina Department of Environment and Natural Resources, Division of Water Quality (DWQ). DWQ has also implemented similar protections for isolated wetlands and waters, as well as stream buffers in selected river basins. Approximately 40 full-time employees work in the DWQ's wetland programs, with about half in the Raleigh headquarters and half in seven regional offices located throughout the state. The NC Division of Coastal Management additionally administers wetland programs in the state's coastal counties.

In 1996, the NC General Assembly established the Wetland Restoration Program to organize, target and accelerate wetland mitigation efforts across the State. Since that time, the Program has expanded to a 60 person agency, now renamed the NC Environmental Enhancement Program (EEP). Working in conjunction with the DWQ, the EEP administers the wetlands and stream mitigation program and an in-lieu-fee mitigation program. The NC EEP has received EPA grant funds for their work in monitoring, restoration project management, watershed planning and other related efforts. Through these programs, along with education, restoration and water quality initiatives, North Carolina seeks to effectively replace unavoidable wetland losses in the state.

WPDG Activity

In 1996, NC DWQ used a WPDG to develop a Statewide Wetland and Stream Management Strategy. The objective for developing the Strategy was to identify opportunities to make wetland, stream and riparian buffer protection programs and conservation approaches work more efficiently and effectively in NC across multiple local, state and federal programs. Some of the accomplishments of the work include a comprehensive inventory and assessment of the State's wetland resources and the development of riparian buffer protection rules, initially for the Neuse River Basin, but subsequently expanded to two additional river basins. DWQ pursued recommendations identified in the Strategy with support from EPA wetland grants, including the development of protections for isolated wetlands, intermittent streams and unique wetlands.

NC DWQ, NC EEP and the NC Division of Coastal Management have long collaborated on the mapping of NC wetlands. Advanced GIS tools have been used to identify wetland types and the location and extent of wetlands in the coastal plain, inner coastal plain and Piedmont areas of the

state. A ranking of ecological importance of NC wetlands has also been developed using wetland functional assessment models and GIS. The products of these mapping efforts can help identify wetlands for protection and preservation; prioritize potential wetland restoration sites; and help developers, counties, cities and others avoid and minimize wetland impacts in developing areas. WPDG awards assisted the state in this mapping and assessment work, beginning with a 1994 grant to first develop the GIS model, and including a project completed in 2004 to expand the work to Piedmont area wetlands.

As part of a 2001 WPDG, NC DWQ produced an inventory of sites that qualify for the unique wetlands classification and developed a formal process to apply the classification to selected sites. To date, DWQ has submitted requests to reclassify approximately 30 wetland sites as Unique Wetlands, encompassing over 3,800 acres. NC DWQ produced technical and policy guidelines for implementing this supplemental state water quality classification for Unique Wetlands. The program and process are to be reviewed by the state rules review committee, state legislature and the EPA for final approval.

Current Work and Future Plans

North Carolina is developing a GIS based method (Level I) and a rapid assessment method (Level II) to assess the hydrology, water quality and habitat functions of its general wetland types. This project will calibrate and verify methods by conducting a more detailed Level III assessment (chemical, physical and biological data) of some of the general wetland types within North Carolina. A reference domain of wetland functions in each general wetland type along a disturbance gradient will be established.

NC DWQ was awarded a grant in 2005, under EPA's Environmental Outcome Wetland Demonstration Pilot program to provide assistance to the State for enhancing the organization of compensatory mitigation files and tracking for reporting requirements and success criteria. With this funding, DWQ will be able to increase the number of 401 Certification compliance and enforcement visits to wetland and stream permitting sites across the state. The numerous projects described here demonstrate how WPDGs have helped North Carolina build state program capacity to protect wetland and stream resources.

Please visit the North Carolina Division of Water Quality website (http://h2o.enr.state.nc.us/Wetlands.html) to learn more about what North Carolina is doing to protect, enhance and restore the State's wetland resources.

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